



2009-10 Influenza Epidemiology and Surveillance Weekly Status Report For the Week Ending October 17, 2009

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Executive Summary

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State Epidemiologist and Director
Bureau of Surveillance and Epidemiology

Overview

This week's report marks the second week of our new and improved epidemiology and surveillance report for influenza in Kansas. As I mentioned in my Executive Summary in last week's report, we have substantially revised and enhanced our surveillance methods for influenza in an effort to provide more comprehensive information to monitor the impact of the pandemic, and to more effectively plan and deploy our response activities.

As I reviewed the data for this week's report, it is clear that influenza activity is continuing to increase in Kansas, and is higher now than what we typically see during the peak of the influenza season in February each year. What is also important to note is that the patterns of increasing activity are evident throughout all of our surveillance systems. While no single system provides the information we need to fully understand the impact of influenza, the consistency in the data is striking. As the reader looks through the report, these trends are clear with the predominance of red and orange on the maps and the fact that almost all of the trend lines on the charts go up.

Outpatient Visits for Influenza-like Illness (ILINet)

The percentage of patients presenting to outpatient clinics who had influenza-like illness (ILI) last week throughout the state increased by more than 36% from the week before, from 8.3% to 11.3%. This means that more than one in every ten patients seeking care was experiencing ILI. Activity was highest in the northwest region of the state, where the rate of ILI among outpatients was 13.3%, followed by the northeast region at 13.0%. Nearly every region of the state experienced increases from the week before, the only exceptions being the north central region, which showed no change, and the south central region, which experienced a slight decrease.

Hospital Admissions for Pneumonia or Influenza (EMSystems)

The rate of hospital admissions per 100 bed days increased by more than 49% last week as compared to the week before, from 0.61 to 0.91. Rates were highest in the southwest at 1.55, followed by the southeast at 1.31 and the northwest at 1.24. Overall, there were 383 patients reported as admitted for pneumonia or influenza, with 80 of 131 hospitals (61%) reporting. Increases in the rate of admissions per bed days last week from the week before were observed in every region of the state, with the highest rate of increase observed in the northwest, which experienced a 163% increase, from a rate of 0.47 to 1.24. The rate in the southeast region increased by more than 98%, from 0.66 to 1.31).

Executive Summary

Mortality Due to Pneumonia or Influenza

Twenty-two deaths of the total of 378 deaths (5.8%) reported to KDHE the week ending October 17 were due to pneumonia or influenza, which is a slight decrease from the previous week. Nationally, the percentage of all deaths reported during the week ending October 10 was 6.7%, which was slightly above the epidemic threshold for that week.

Self-reported Influenza-like Illness

Although the data regarding self-reported ILI through the Behavioral Risk Factor Surveillance System has some inherent lag time, it is interesting to note the increases in all of the indicators. The percentage of adults who reported they had experienced ILI in the two weeks prior to interview increased to more than 10% among adults interviewed from October 1 – 11. Particularly striking is that nearly 40% of children were reported to have experienced ILI in the previous four weeks among interviews conducted from October 1 – 11. Almost 25% of households had at least one person who experienced ILI among interviews conducted October 1 – 11.

School Absenteeism

Increases in the percentage of schools at all grade levels reporting 10% or greater absenteeism were observed in nearly every region of the state. More than 30% each of elementary schools, middle schools, and high schools throughout the state were reported to have 10% or higher absenteeism the week ending October 16, which represents increases at all school levels from the week before. Four of the six regions of the state had at least 30% of elementary schools reporting 10% or higher absenteeism, ranging from a low of 16% of schools with 10% or higher absenteeism in the Kansas City metropolitan region to a high of 53% of schools with 10% or higher absenteeism in the northwest region. Among middle schools, the southeast region reported the highest percentage of schools with at least 10% absenteeism, at 52%. Absenteeism at the middle school level appeared to be highest in the southern half of the state. The southeast region also reported the highest percentage of high schools with 10% or greater absenteeism, at 63%.

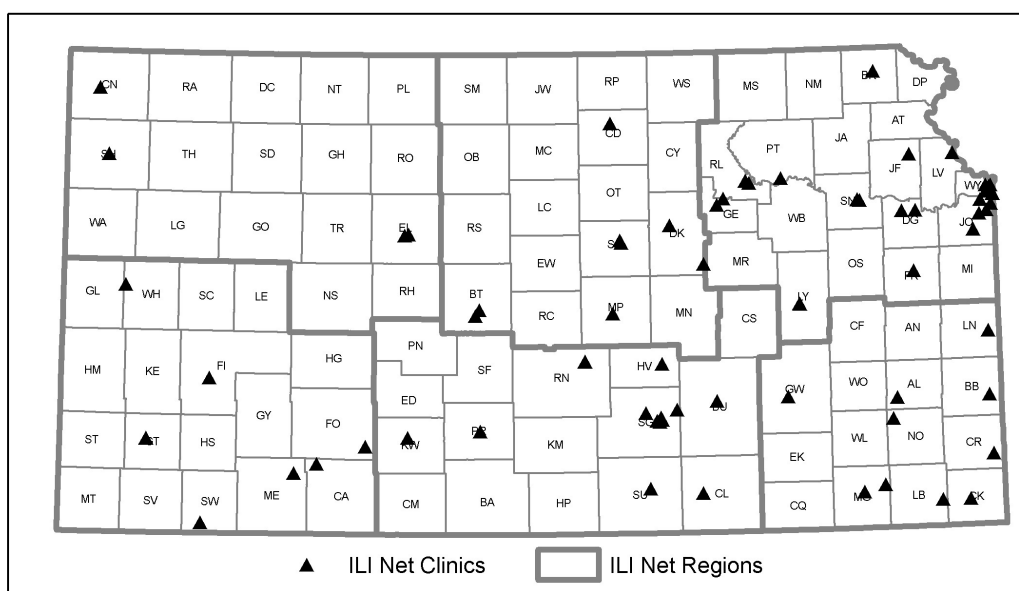
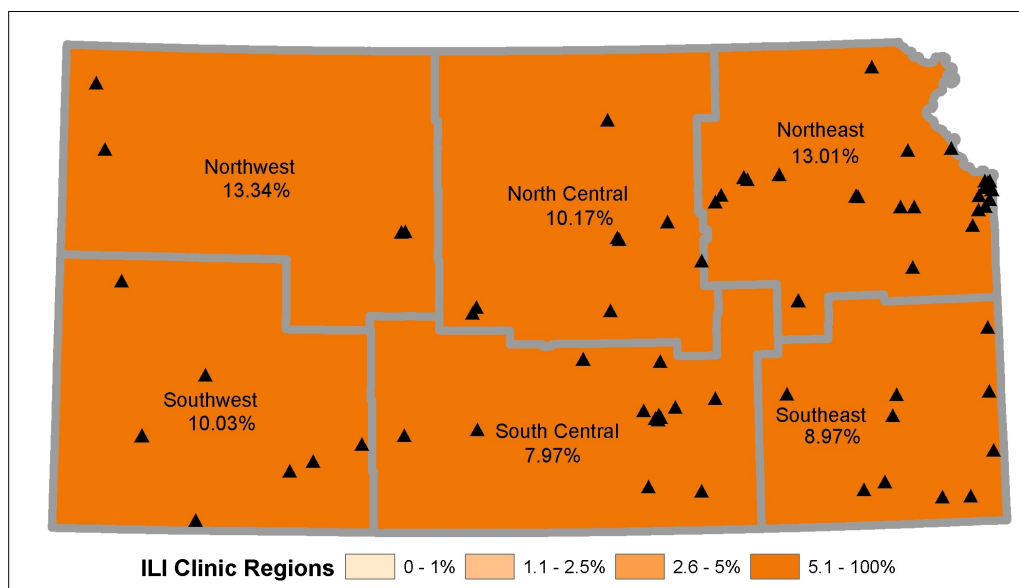
Laboratory-based Surveillance

The number of specimens tested for influenza at the KDHE Laboratories increased to more than 250 for the week ending October 17. Overall, more than 60% of specimens tested were positive for the 2009 pandemic H1N1 influenza A virus. This provides a good indication that patients are being appropriately targeted for influenza testing. The descriptive epidemiology of laboratory-confirmed cases has remained relatively consistent. Cumulatively, approximately 53% of cases were 5 to 24 years of age, and 14% were under 5 years of age.

Outpatient Influenza-like Illness Surveillance (ILINet) - Week ending October 17, 2009



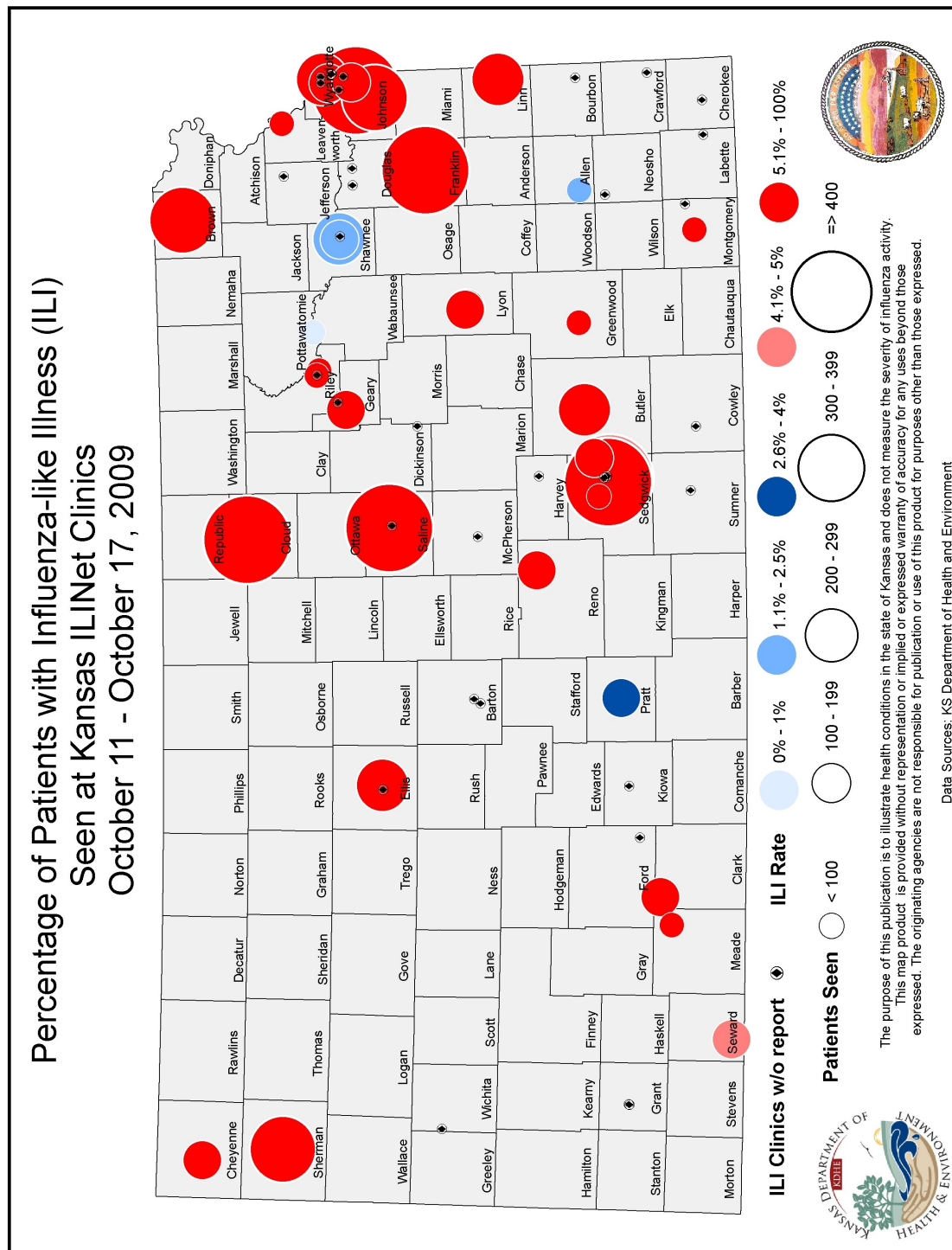
Percentage of Patients with Influenza-like Illness (ILI) Seen at Kansas ILINet Clinics, by Region October 11 - October 17, 2009



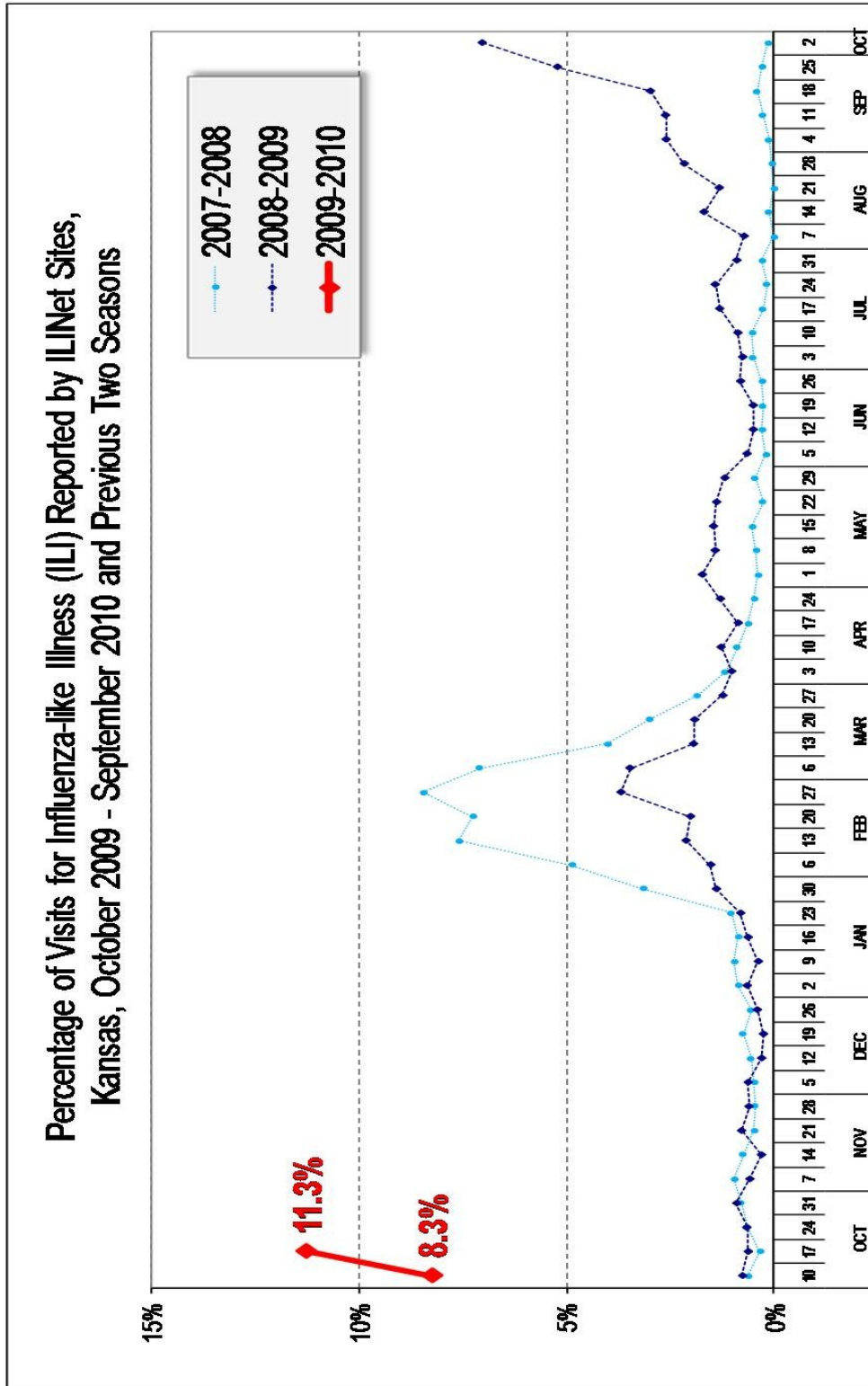
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Data Sources: KS Department of Health and Environment

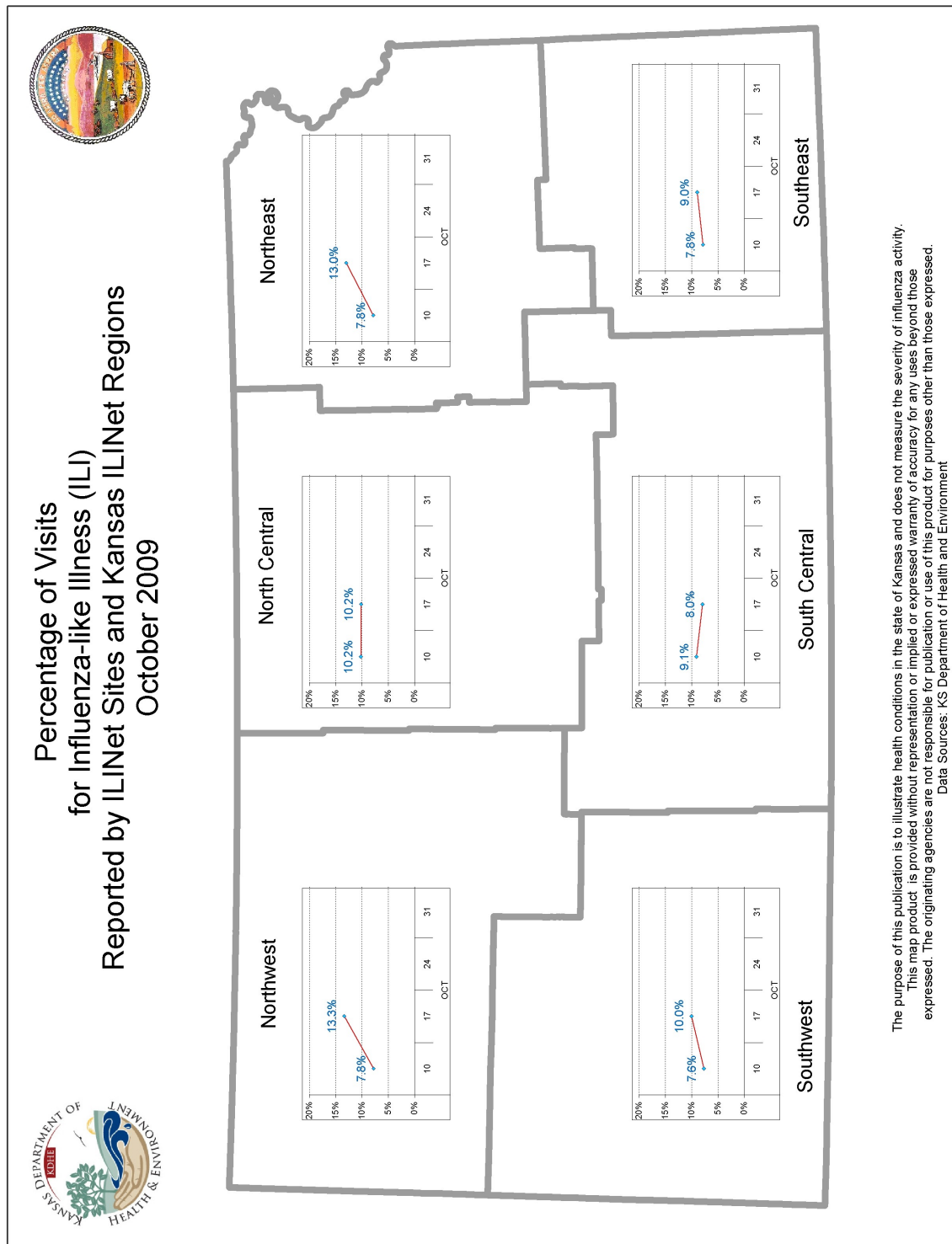
Outpatient Influenza-like Illness Surveillance (ILINet) - Week ending October 17, 2009



Outpatient Influenza-like Illness Surveillance (ILINet) - Week ending October 17, 2009



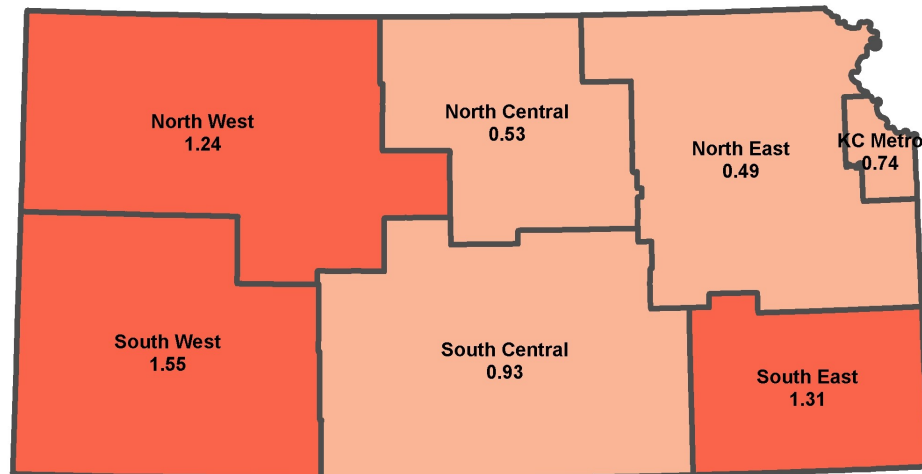
Outpatient Influenza-like Illness Surveillance (ILINet) - Week ending October 17, 2009



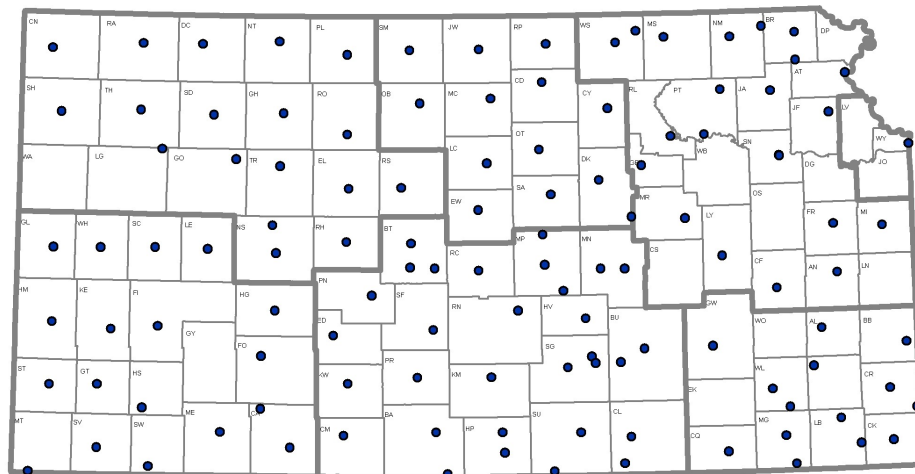
Hospital Admissions Surveillance (EMSystems) Week ending October 17, 2009



Rate of Hospitalizations
due to Pneumonia or Influenza
per 100 Bed-Days*
by Preparedness Region,
October 11 – October 17, 2009



Rate of Admissions 0 <0.50 0.5 - 1.0 > 1.0



• Emsystems Hospitals KS Preparedness Region

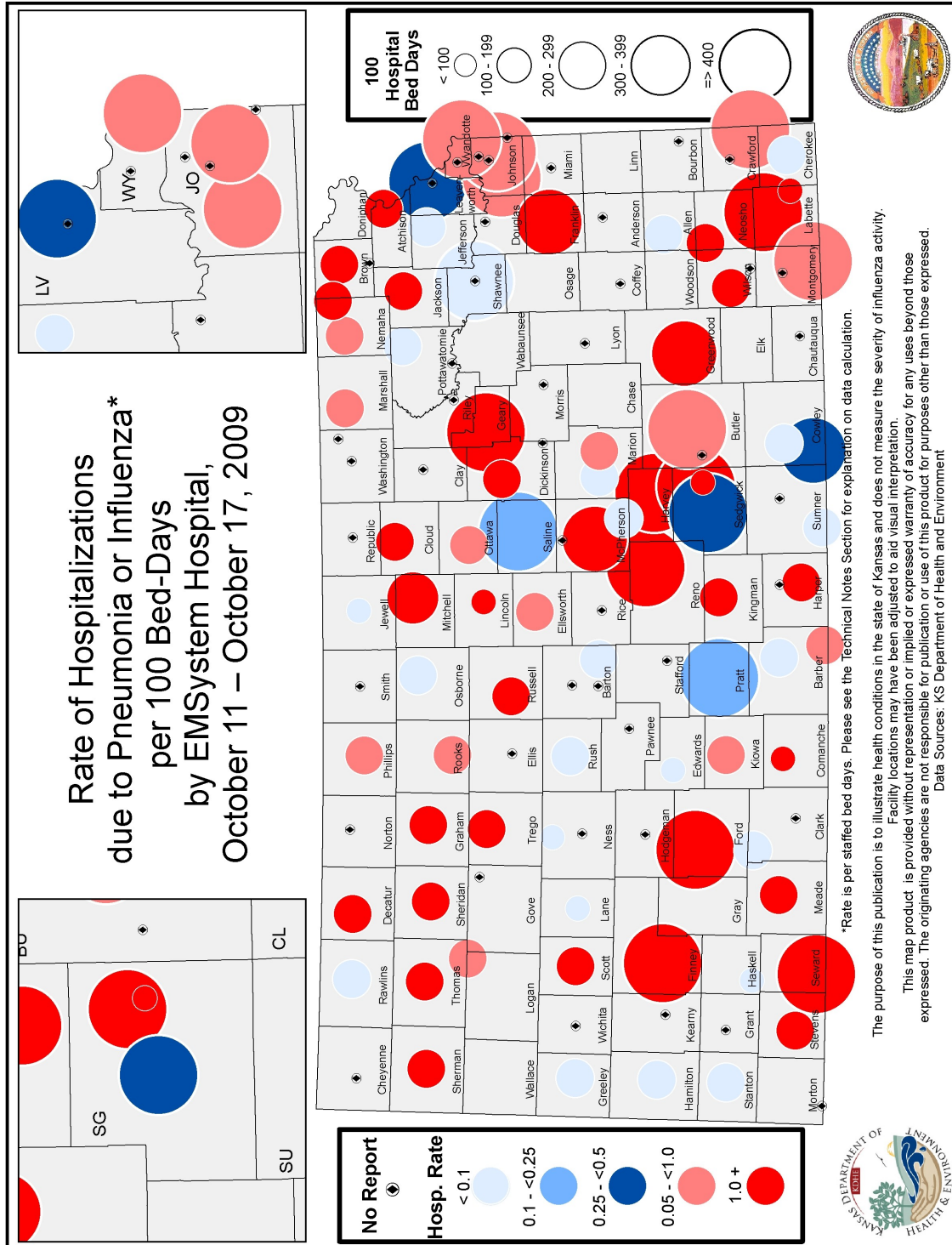
*Rate is per staffed bed days. Please see the Technical Notes Section for explanation on data calculation.

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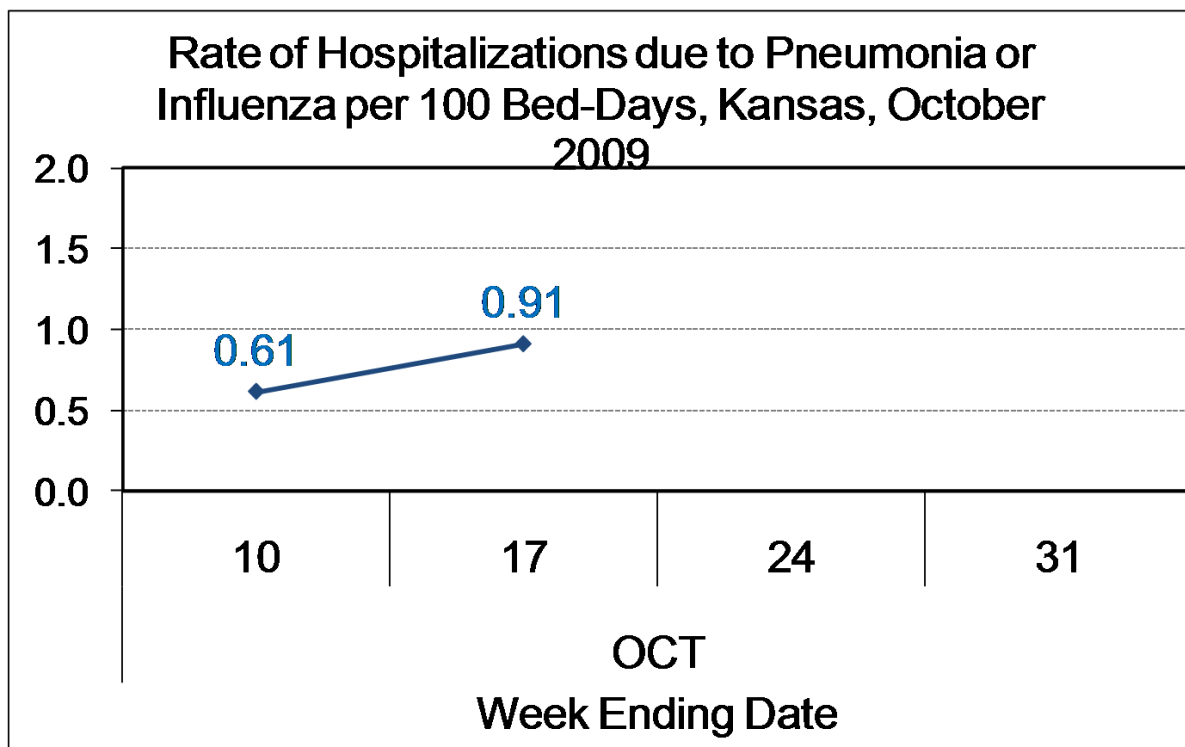
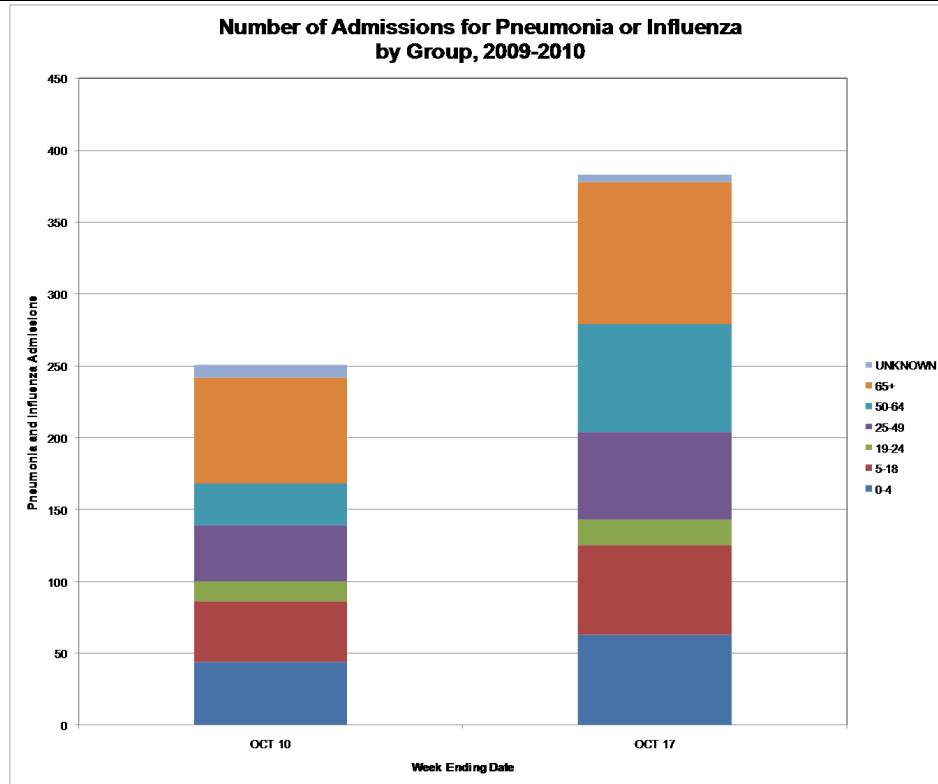
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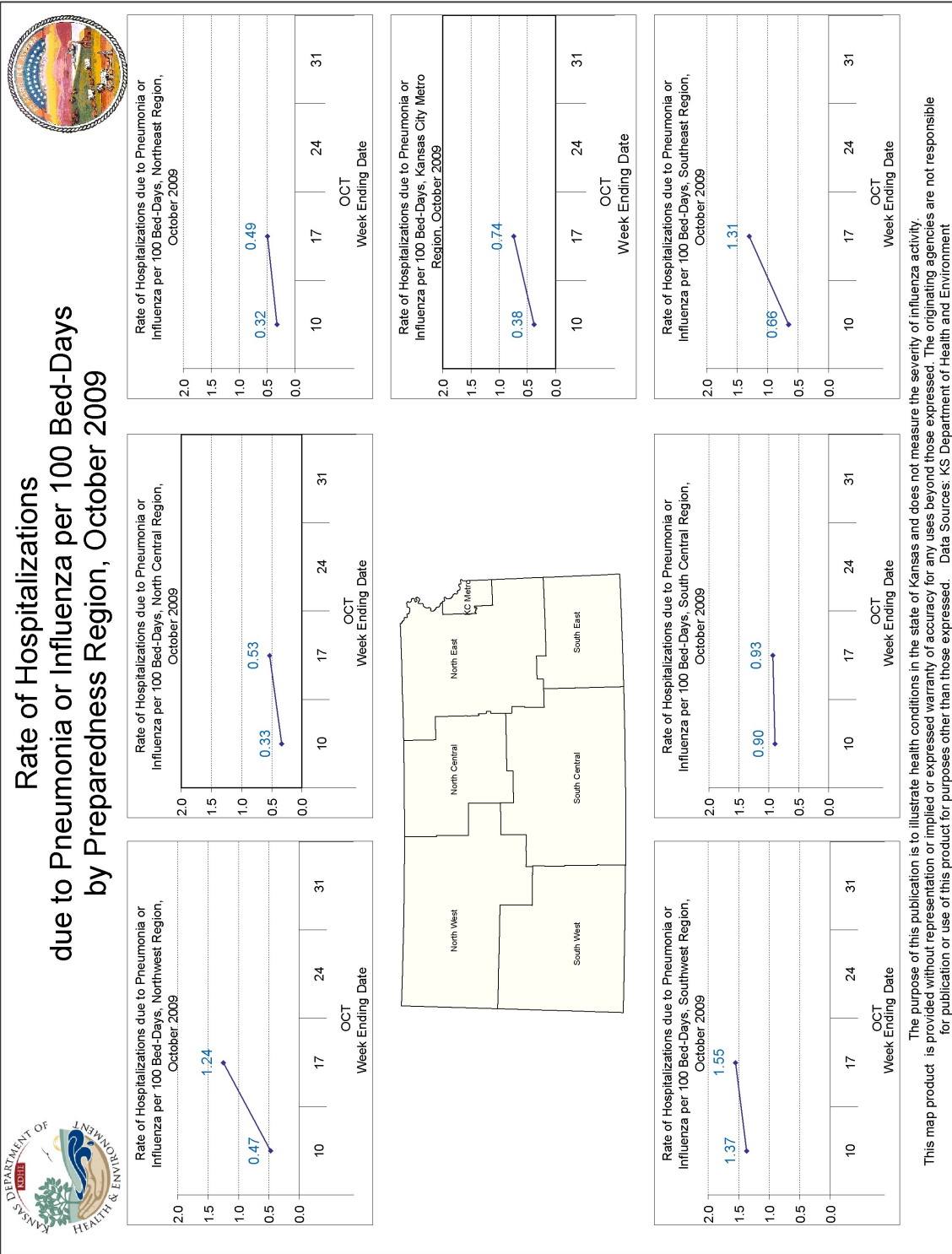
Hospital Admissions Surveillance (EMSystems) Week ending October 17, 2009



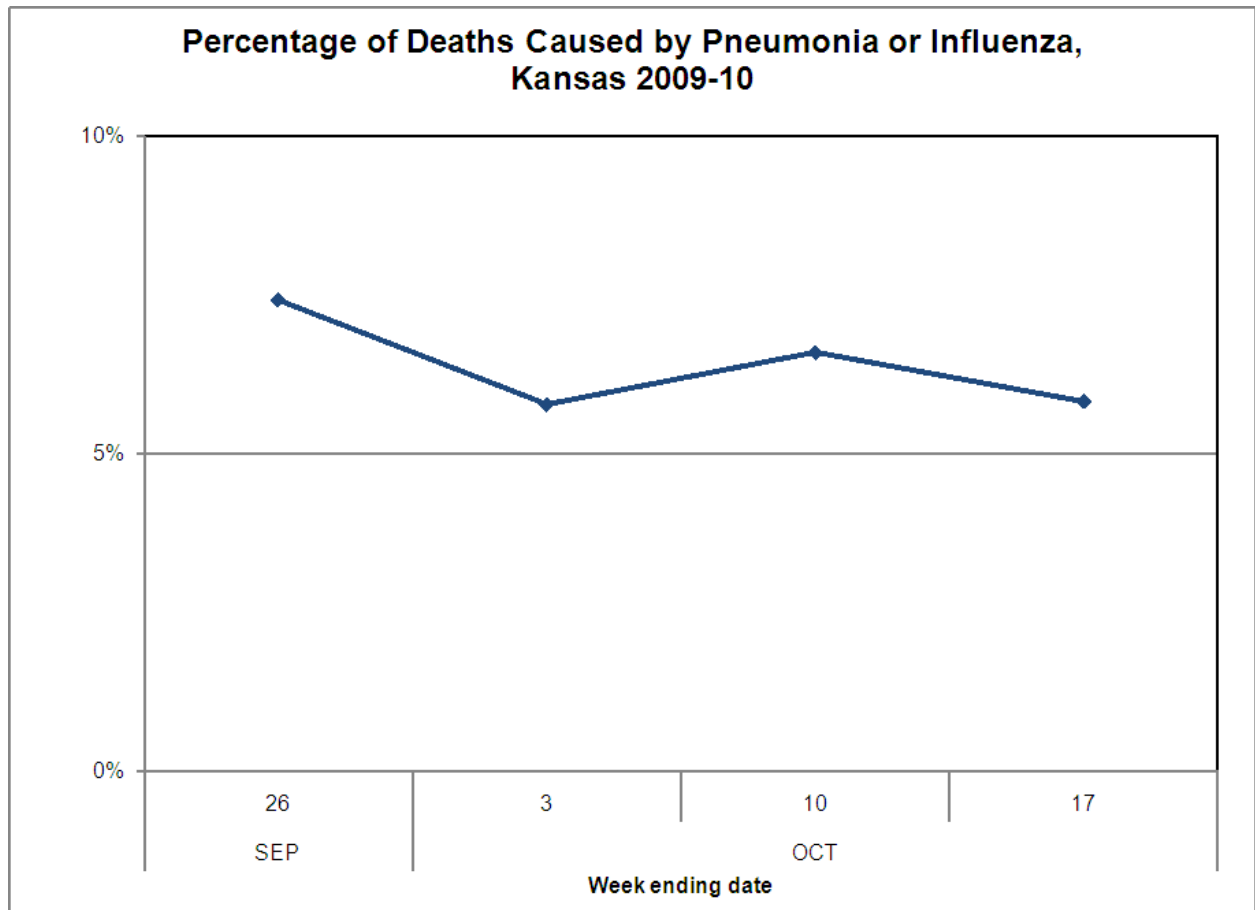
Hospital Admissions Surveillance (EMSystems) Week ending October 17, 2009



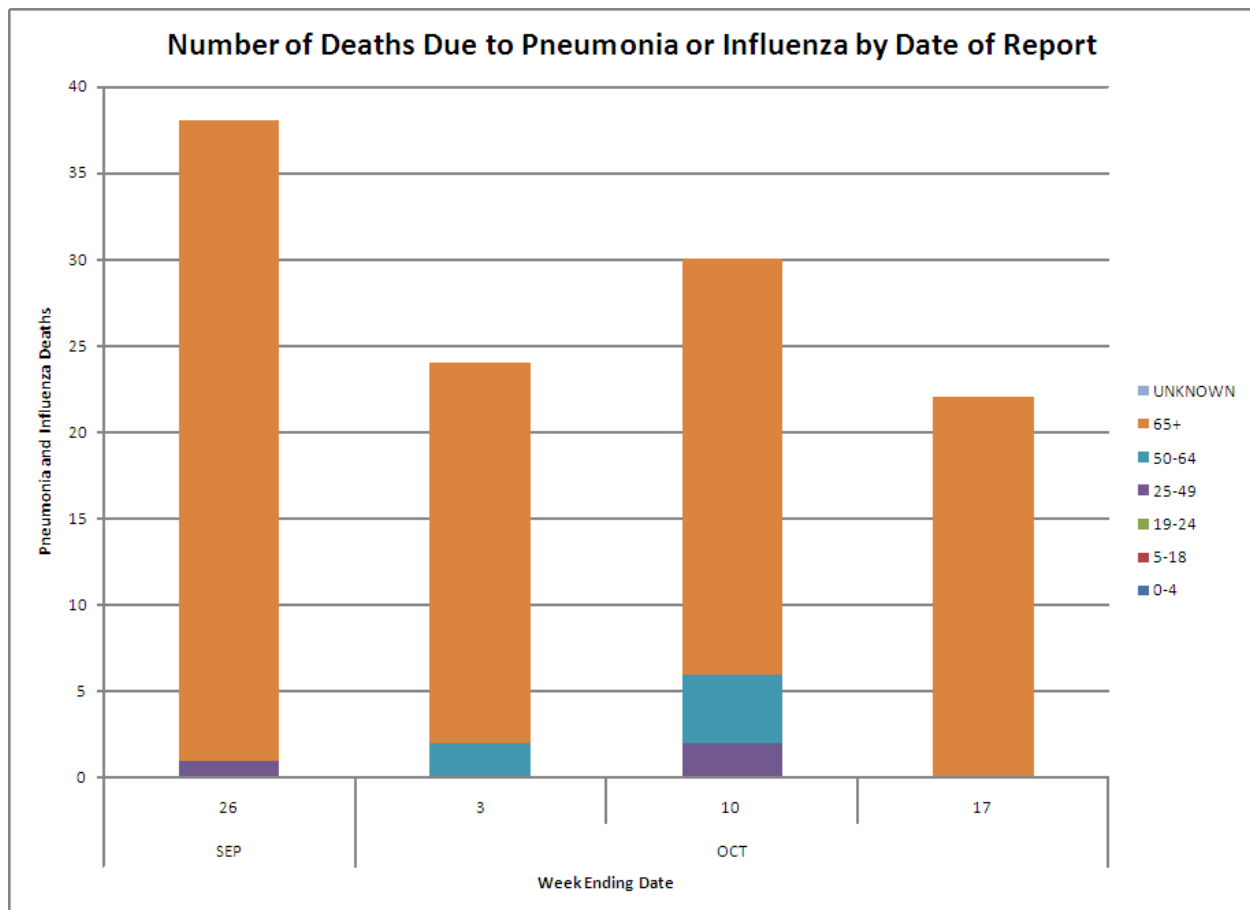
Hospital Surveillance (EMSystems) - Week ending October 17, 2009



Mortality Due to Pneumonia or Influenza



Mortality Due to Pneumonia or Influenza

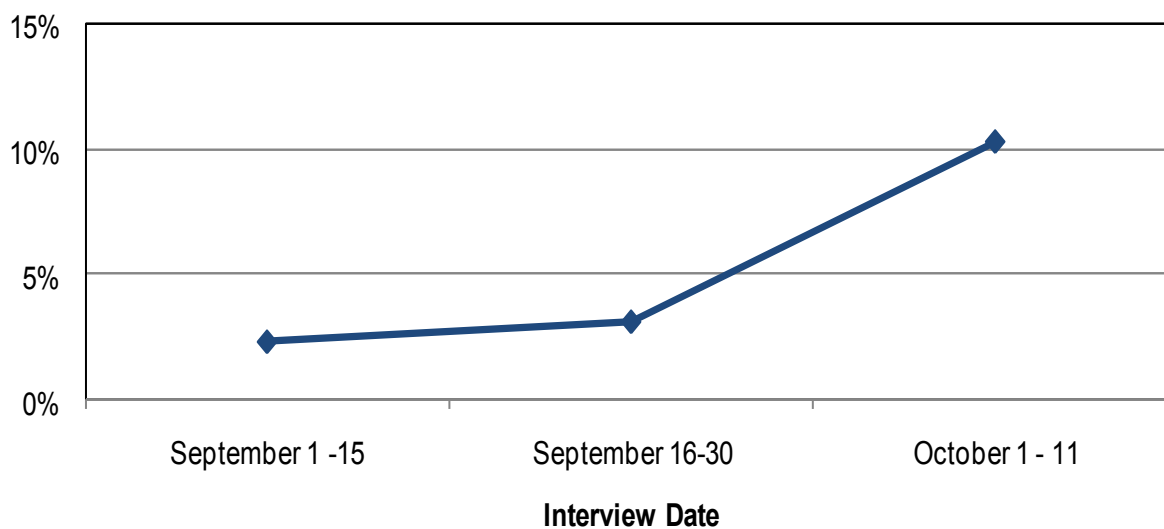


Cumulative Number of Pneumonia or Influenza Deaths Reported by Age Group, September 26—October 17, 2009.

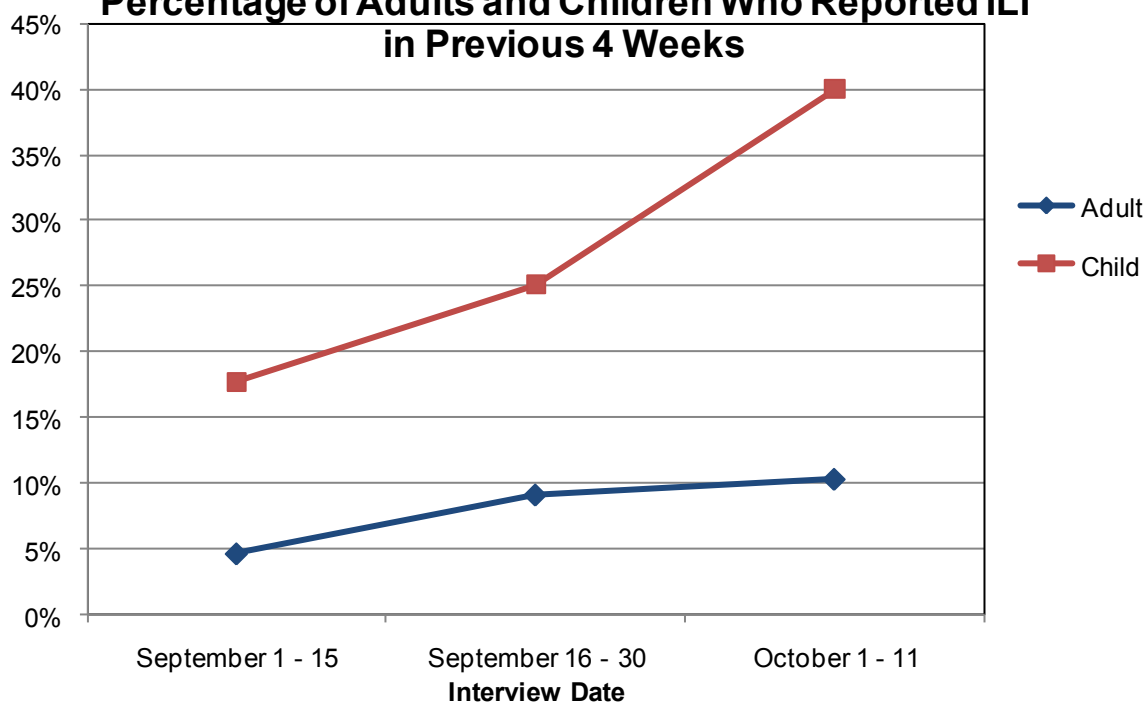
0-4	5-18	19-24	25-49	50-64	65+	Unknown	Total
0	0	0	3	6	105	0	114

Self-Reported Influenza-like Illness

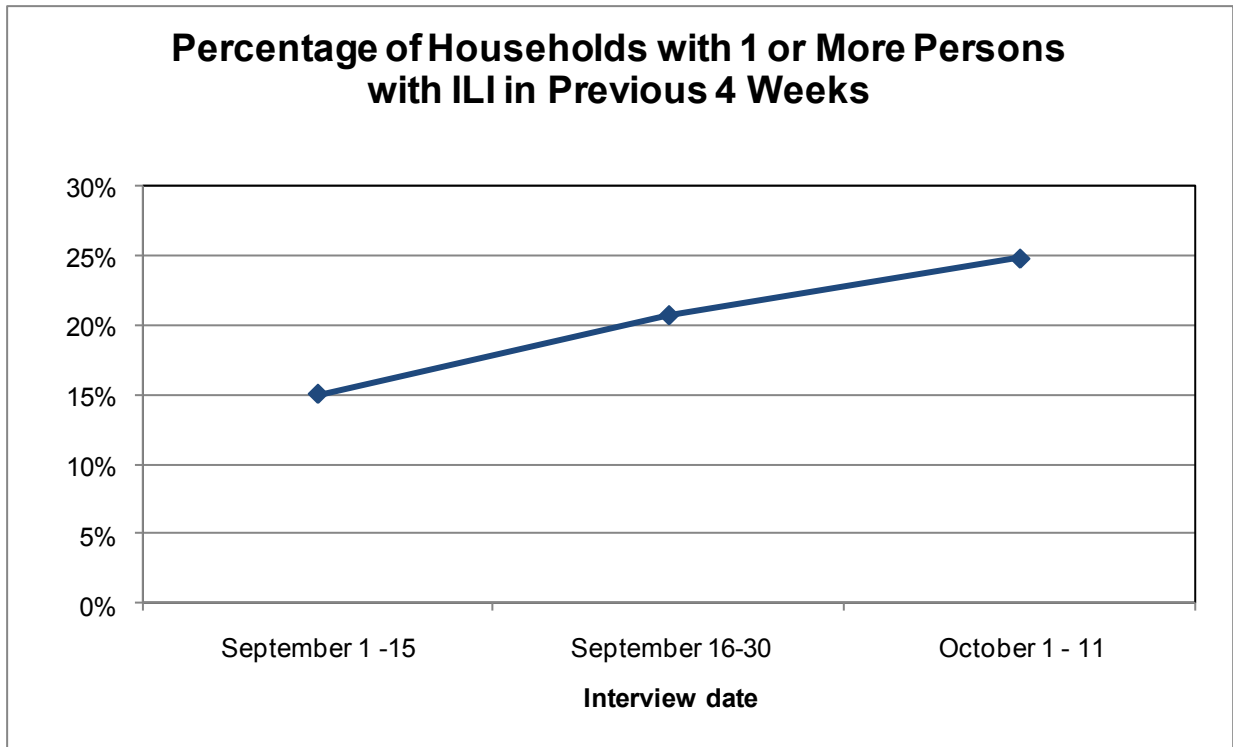
Percentage of Adults Who Reported ILI in Previous 2 Weeks



Percentage of Adults and Children Who Reported ILI in Previous 4 Weeks



Self-Reported Influenza-like Illness



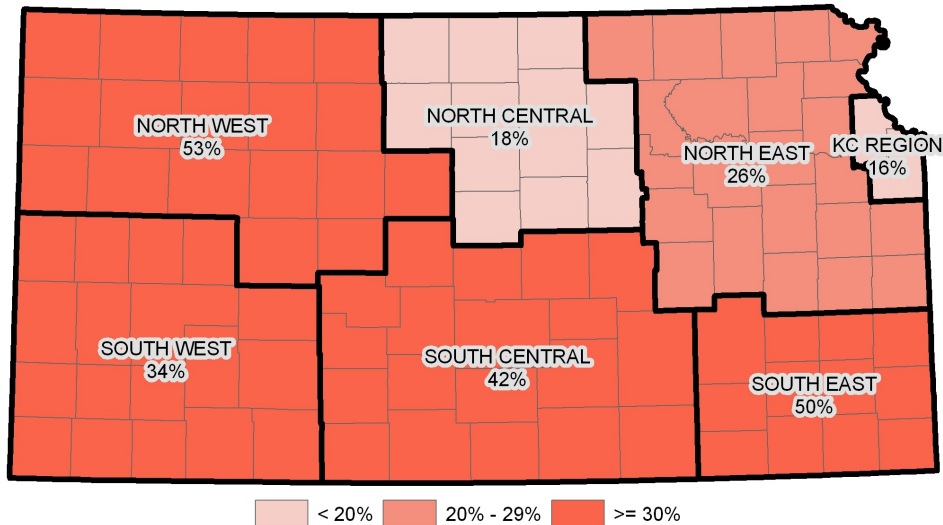
School Absenteeism Surveillance - Week ending October 16, 2009



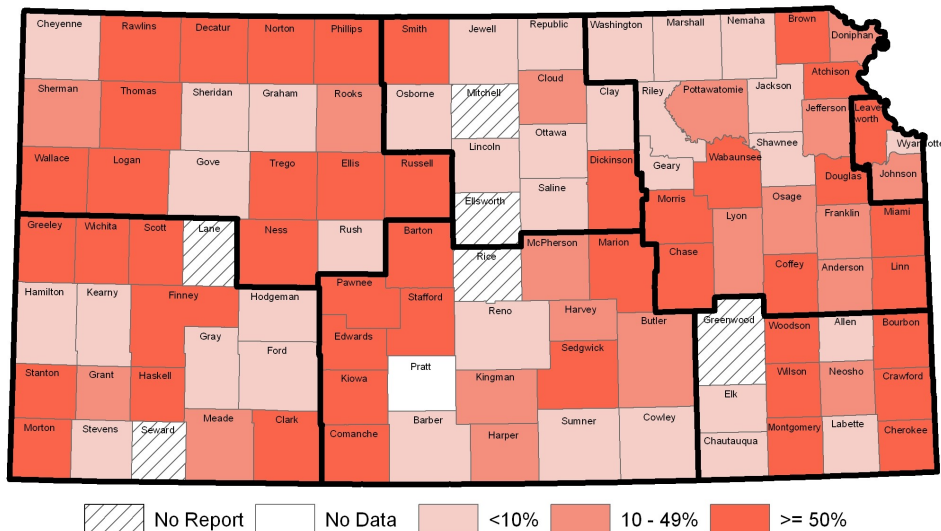
Percentage of Schools Reporting
10% or Greater Absenteeism
October 12 - October 16, 2009



Preparedness Region Summary for Elementary Schools



County Summary for Elementary Schools



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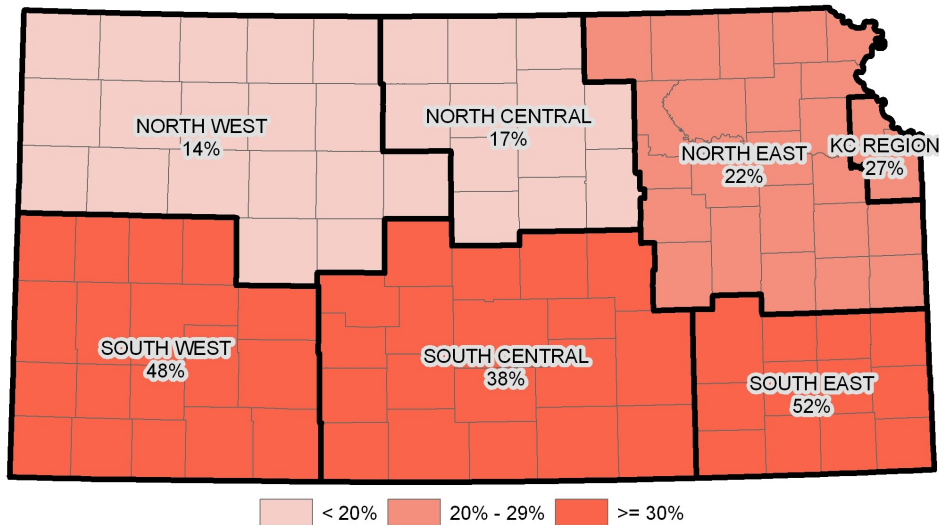
School Absenteeism Surveillance - Week ending October 16, 2009



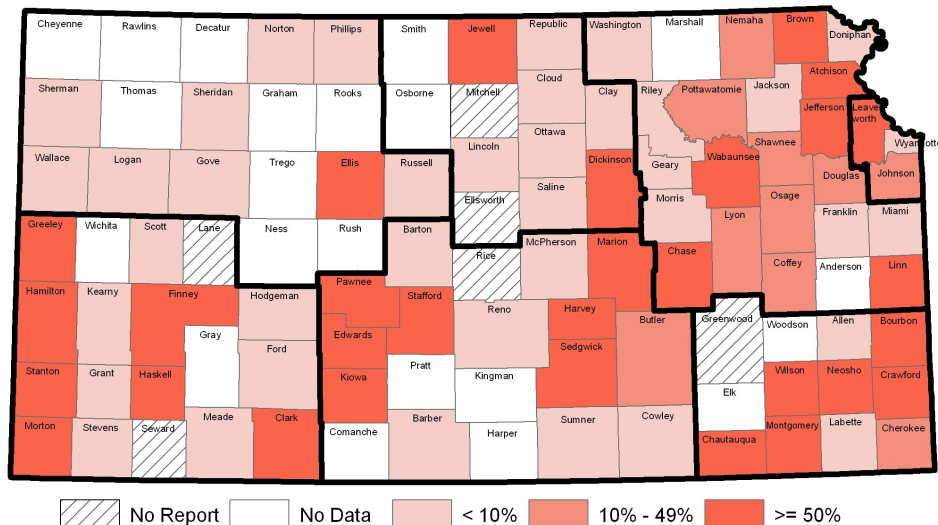
Percentage of Schools Reporting
10% or Greater Absenteeism
October 12 - October 16, 2009



Preparedness Region Summary for Middle Schools



County Summary for Middle Schools



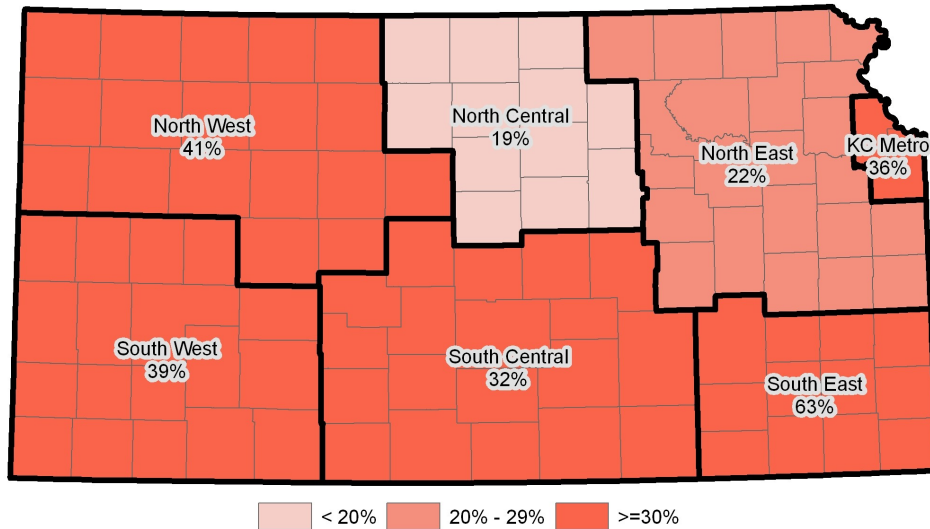
School Absenteeism Surveillance - Week ending October 16, 2009



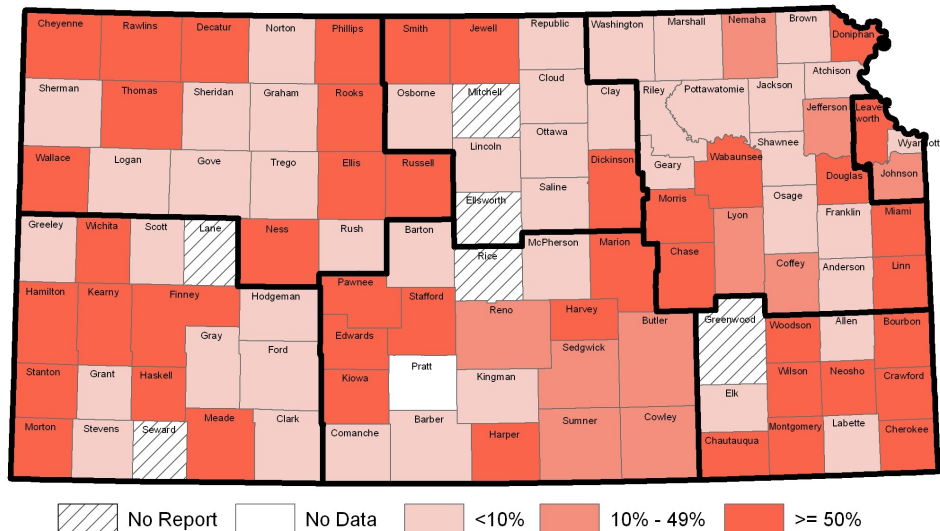
Percentage of Schools Reporting
10% or Greater Absenteeism
October 12 - October 16, 2009



Preparedness Region Summary for High Schools

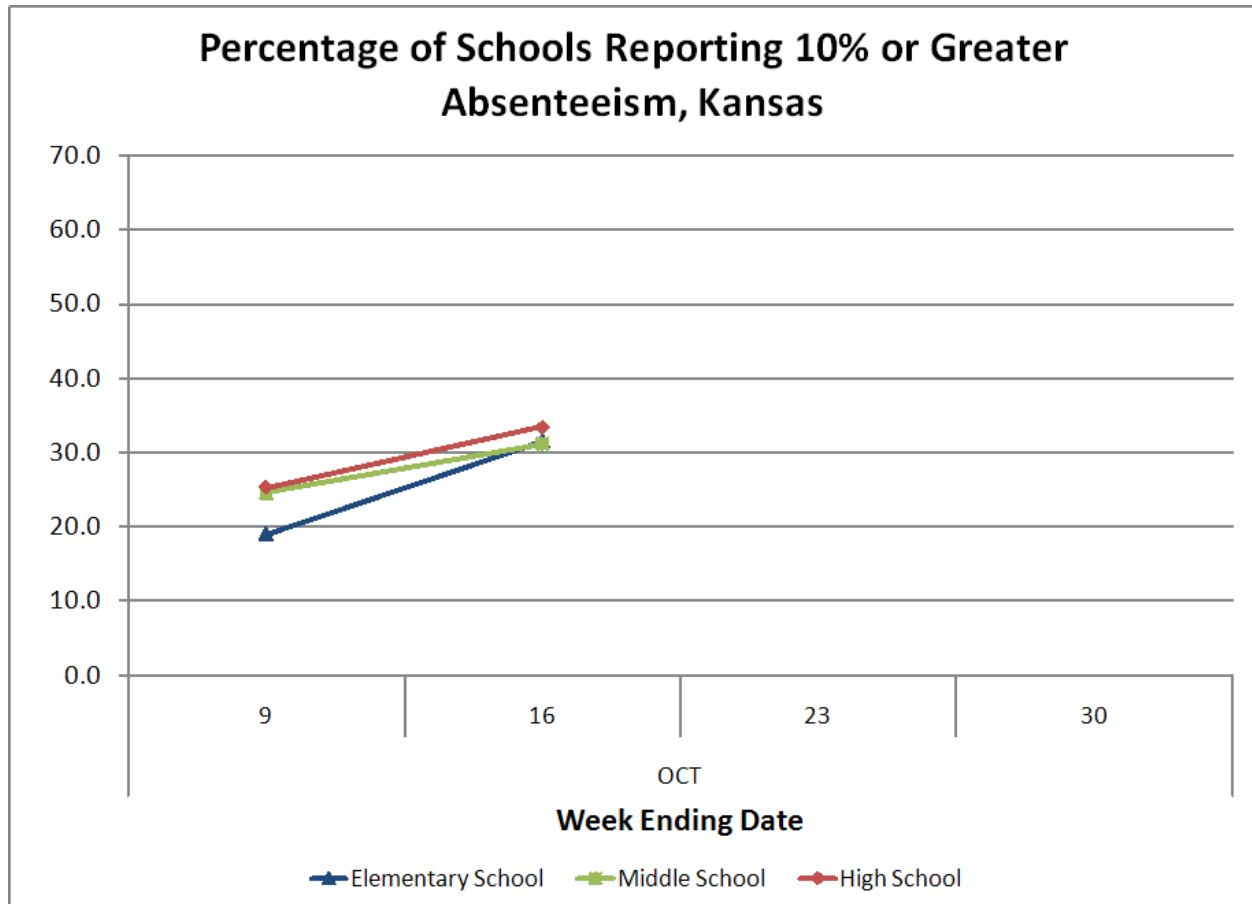


County Summary for High Schools



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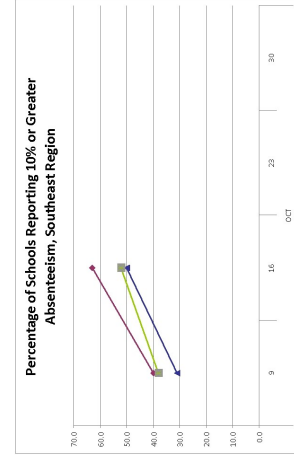
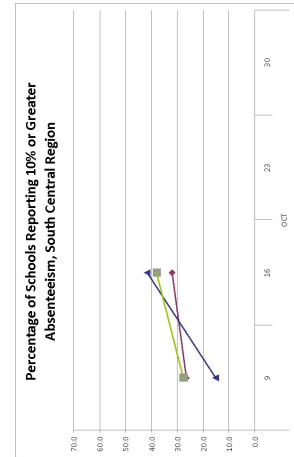
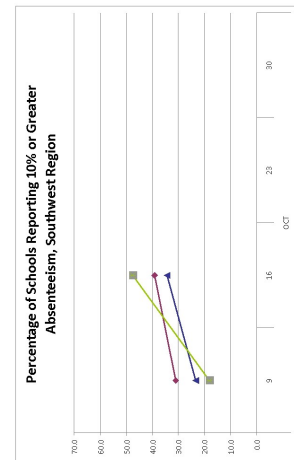
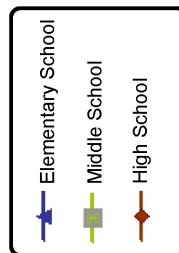
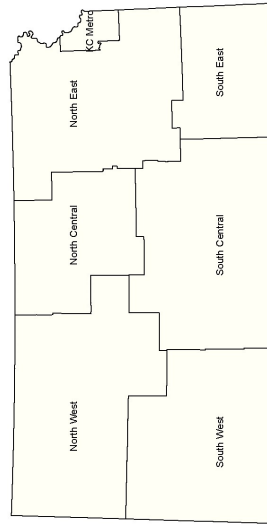
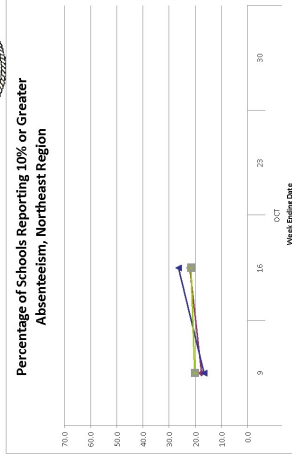
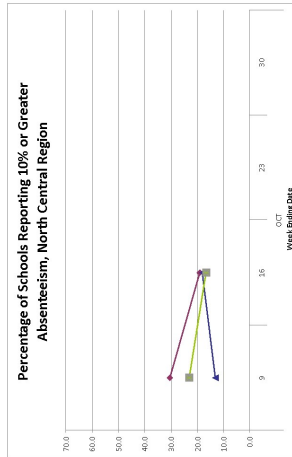
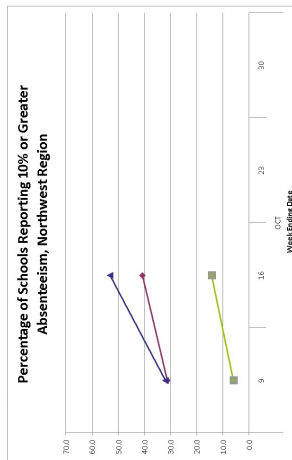
School Absenteeism Surveillance - Week ending October 16, 2009



School Absenteeism Surveillance - Week ending October 16, 2009

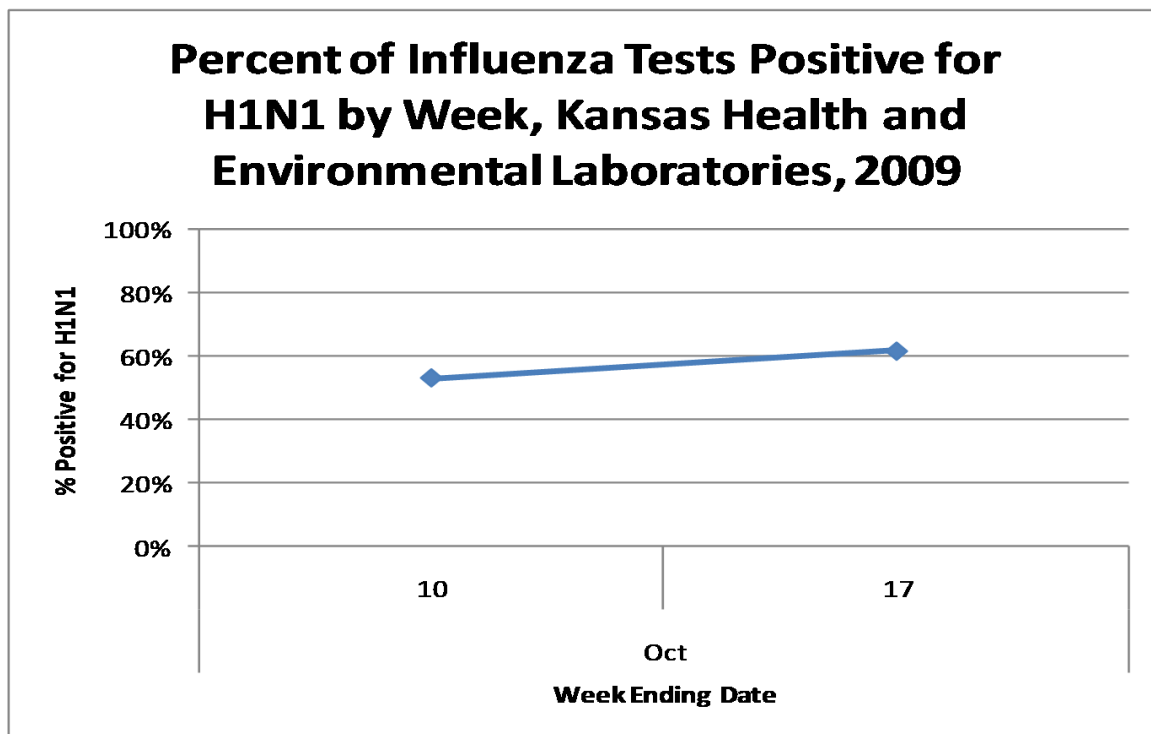
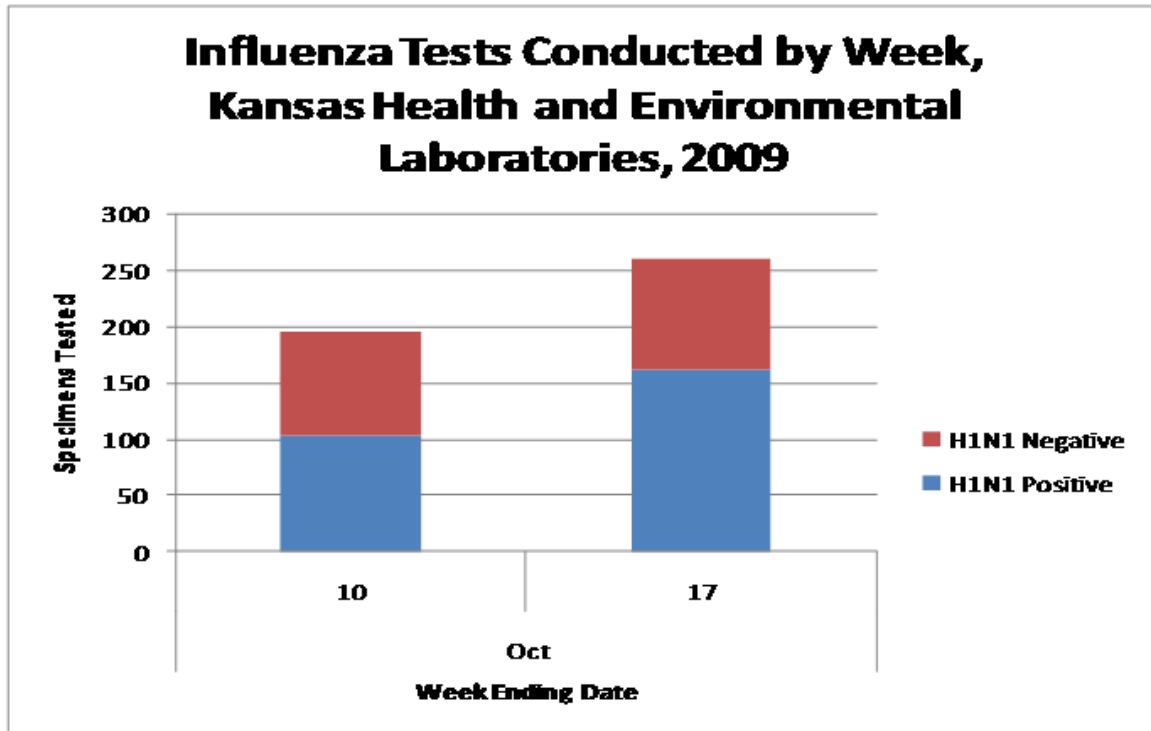


Percentage of Schools Reporting 10% or Greater Absenteeism by Preparedness Region, October 2009



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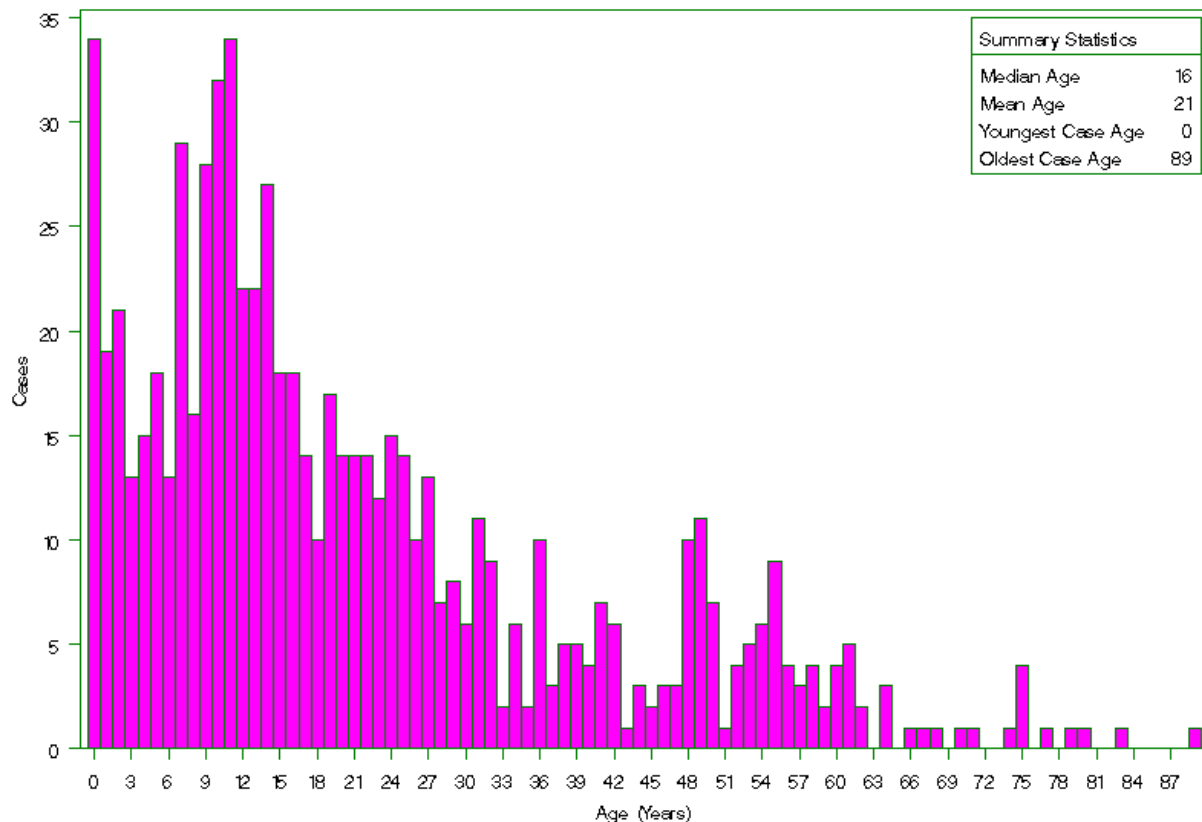
Laboratory Testing at Kansas Health and Environmental Laboratories



Descriptive Epidemiology

Patient Characteristics for Laboratory-Confirmed Cases	
Median Age (Years)	16.0
Age Range (Years)	<1 to 89
Percent (%) by Age Group:	
<5 Years	(14)
5 to 24 Years	(53)
25 to 49 Years	(22)
50 to 64 Years	(8)
65+ Years	(2)
Percent (%) Male	(47)
Percent (%) Hispanic or Latino	(19)
Percent (%) by Race	
White Only	(68)
Black Only	(9)
Other	(6)
Unknown	(16)
Percent (%) Died	(1)

Age Distribution of Laboratory Confirmed Cases as of October 17 2009



Technical Notes

Outpatient Influenza-like Illness Surveillance (ILINet)

Information on patient visits to health care providers for influenza-like illness is collected through the US Outpatient Influenza-like Illness Surveillance Network (ILINet). For this system, ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza.

ILINet clinics in Kansas report the number of patients seen with influenza-like illness each week. The information reflects data collected for the week ending the previous Saturday. As of October 10, 2009, seventy-one sites are enrolled in ILINet in Kansas. The graphs show the ILI rate reported for the state and by region by week ending date. Each rate was calculated by dividing the number of patients seen with ILI at the clinic by the total number of patients seen.

Influenza-like illness data are collected from Sunday through Saturday of each week. Each participating clinic is requested to summarize weekly data and submit it by noon on Tuesday of the following week. The information on these charts may change each week because of data that may have been submitted after the reporting deadline.

Hospital Admissions for Pneumonia or Influenza Surveillance (EMSystems)

Hospitals throughout Kansas submit information to the Kansas Hospital Association (KHA) through EM-Systems, an online reporting system. One hundred and thirty-one (131) hospitals have access to EM-Systems. KDHE has partnered with KHA to collect aggregate information on patients hospitalized for pneumonia or influenza.

The graphs show the rate of hospital admissions for pneumonia or influenza reported for the state and region by week ending date. Each rate was calculated by dividing the number of patients admitted to the hospital with pneumonia or influenza by bed days. The denominator bed days was calculated by multiplying the number of staffed beds by seven.

Mortality Due to Pneumonia or Influenza

The Office of Vital Statistics within the Bureau of Public Health Informatics at KDHE receives and preserves vital records for events (births, deaths, marriages, and divorces) which occur in Kansas. The mortality data in this report reflects the number of persons whose primary or underlying cause of death was attributed to pneumonia and / or influenza.

Self-Reported Influenza-like Illness

The Behavioral Risk Factor Surveillance System (BRFSS), which is coordinated and partially funded by the Centers for Disease Control and Prevention, is the largest continuously conducted telephone survey in the world. It is conducted in every state, the District of Columbia, and several United States territories. The first BRFSS survey in Kansas was conducted as a point-in-time survey in 1990, and Kansas has conducted the BRFSS survey annually since 1992.

Beginning in September, 2009, the BRFSS questionnaire was revised to include questions to assess influenza-like illness among adult respondents and other members of the household. The graphs provide the percent of adults, children, and households in which at least one person had experienced ILI.

School Absenteeism Surveillance

Data are collected by local health departments (LHDs) during each school week. LHDs report the number of schools with 10% or greater absenteeism and the total number of schools that submit data each week. LHDs submit data to KDHE by noon on Tuesday of the following week.

Technical Notes

School Absenteeism Surveillance (continued)

Data are reported by one of three categories: elementary school (i.e. K-5), middle school (i.e., 6-8), and high school (i.e., 9-12). The designated school category is based upon the majority of grades within the school; for instance, a school consisting of grade levels K-6 would be classified as an elementary school.

Rates of school absenteeism by county may be unstable and changes over time should be interpreted with caution. "No report" classification indicates the LHD failed to report any data to KDHE. "No data" classification indicates that either the school(s) did not report any data to the LHD or there are no schools in the county for the specific school category.

Laboratory Testing at Kansas Department of Health and Environmental Laboratories (KHEL)

This information represents data reported to KDHE for the week ending the previous Saturday. Prior to September 1, 2009 persons with symptoms consistent with ILI were tested at KHEL. Beginning September 1, specimens were only tested if the person was hospitalized or if the person was seen at an ILINet Clinic Site.

Descriptive Epidemiology for Laboratory-Confirmed H1N1 Cases at KHEL

The information represents data reported to KDHE for the week ending the previous Saturday. Only cases that were laboratory confirmed at KHEL are included in this report.

Data Quality Indicators

Percentage of Sites Represented in the Current Week's Data for the Following Sections:

Outpatient Influenza-like Illness Surveillance — 49% (35 of 71 ILINet sites)

Hospital Admissions for Pneumonia or Influenza Surveillance (EMSSystems) - 61% (80 of 131 hospitals)

School Absenteeism Surveillance— 93% (98 of 105 Local Health Departments)

Appendix - Number and County Location of ILINet Clinic Sites

Allen	1
Barton	2
Bourbon	1
Brown	1
Butler	1
Cherokee	1
Cheyenne	1
Clark	1
Cloud	1
Cowley	1
Crawford	1
Dickinson	2
Douglas	2
Ellis	2
Ford	1
Franklin	1
Geary	2
Grant	2
Greenwood	1
Harvey	1
Jefferson	1
Johnson	5
Kiowa	1
Labette	1
Leavenworth	1
Linn	1
Lyon	2
McPherson	1
Meade	1
Montgomery	2
Neosho	1
Pottawatomie	1
Pratt	1
Reno	1
Riley	3
Saline	2
Sedgwick	7
Seward	1
Shawnee	3
Sherman	1
Sumner	1
Wichita	1
Wyandotte	6

Appendix - List of Hospitals Included in Hospital Surveillance Section for Current Report

ALLEN COUNTY HOSPITAL IOLA
ATCHISON HOSPITAL
CITIZENS MEDICAL CENTER COLBY
CLOUD COUNTY HEALTH CENTER CONCORDIA
COFFEYVILLE REGIONAL MEDICAL CENTER
COMANCHE COUNTY HOSPITAL COLDWATER
COMMUNITY HOSPITAL ONAGA
COMMUNITY MEMORIAL HC MARYSVILLE
CUSHING MEMORIAL HOSPITAL
DECATUR COUNTY HOSPITAL OBERLIN
EDWARDS CO. HOSP. AND HC CTR. KINSLEY
ELLINWOOD DISTRICT HOSPITAL
ELLSWORTH COUNTY MEDICAL CENTER
FREDONIA REGIONAL HOSPITAL
GALICIA HEART HOSPITAL
GEARY COMMUNITY HOSPITAL JUNCTION CITY
GOODLAND REGIONAL MEDICAL CENTER
GRAHAM COUNTY HOSPITAL HILL CITY
GREELEY COUNTY HEALTH SERVICES TRIBUNE
GREENWOOD COUNTY HOSPITAL EUREKA
GRISSELL MEM. HOSP. DIST. NO. 1 RANSOM
HAMILTON COUNTY HOSPITAL SYRACUSE
HARPER COUNTY HOSP DIST NO 6 ANTHONY
HIAWATHA COMMUNITY HOSPITAL
HILLSBORO COMMUNITY HOSPITAL
HOLTON COMMUNITY HOSPITAL
JEFFERSON CO. MEM. HOSPITAL WINCHESTER
JEWELL COUNTY HOSPITAL MANKATO
KIOWA COUNTY MEM. HOSPITAL GREENSBURG
KIOWA DISTRICT HOSPITAL KIOWA
LABETTE HEALTH PARSONS
LANE COUNTY HOSPITAL DIGHTON
LINCOLN COUNTY HOSPITAL
LOGAN COUNTY HOSPITAL OAKLEY
MEADE DISTRICT HOSPITAL
MEDICINE LODGE MEMORIAL HOSPITAL
MEMORIAL HOSPITAL ABILENE
MEMORIAL HOSPITAL MCPHERSON
MERCY HOSPITAL MOUNDRIDGE
MINNEOLA DISTRICT HOSPITAL

MITCHELL COUNTY HOSPITAL BELOIT
MT. CARMEL REG MEDICAL CTR PITTSBURG
NEMAHA VALLEY COMM. HOSPITAL SENECA
NEOSHO MEMORIAL RMC CHANUTE
NEWTON MEDICAL CENTER
NINNESCAH VALLEY HEALTH SYS. KINGMAN
OLATHE MEDICAL CENTER
OSBORNE COUNTY MEMORIAL HOSPITAL
OSWEGO COMMUNITY HOSPITAL
OTTAWA COUNTY HEALTH CENTER MINNEAPOLIS
PHILLIPS COUNTY HOSPITAL PHILLIPSBURG
PRATT REGIONAL MEDICAL CENTER
PROMISE REGIONAL MEDICAL CENTER HUTCHINS
RANSOM MEMORIAL HOSPITAL OTTAWA
RAWLINS COUNTY HEALTH CENTER ATWOOD
ROOKS COUNTY HEALTH CENTER PLAINVILLE
RUSH COUNTY MEMORIAL HOSPITAL LACROSSE
RUSSELL REGIONAL HOSPITAL
SABETHA COMMUNITY HOSPITAL
SAINT LUKE'S SOUTH HOSPITAL
SALINA REGIONAL HEALTH CENTER
SATANTA DISTRICT HOSPITAL AND LTCU
SCOTT COUNTY HOSPITAL
SHERIDAN COUNTY HEALTH COMPLEX HOXIE
SOUTH CENTRAL KANSAS RMC ARKANSAS CITY
SOUTHWEST MEDICAL CENTER LIBERAL
ST JOHNS MAUDE NORTON MEM HOSP-COLUMBUS
ST. CATHERINE HOSPITAL GARDEN CITY
ST. FRANCIS HEALTH CENTER TOPEKA
ST. LUKE HOSPITAL AND LIVING CTR MARION
STANTON HEALTH CARE FACILITY JOHNSON
STEVENS COUNTY HOSPITAL HUGOTON
SUMNER COUNTY DIST. NO. 1 CALDWELL
SUSAN B. ALLEN MEM. HOSPITAL EL DORADO
TREGO CO. LEMKE MEM. HOSPITAL WAKEENEY
UNIVERSITY OF KANSAS HOSPITAL
VIA CHRISTI REGIONAL MED CTR WICHITA
WESLEY MEDICAL CENTER WICHITA
WESTERN PLAINS MED. COMPLEX DODGE CITY
WILLIAM NEWTON HOSPITAL WINFIELD